ACEC/WSDOT Project Delivery Team

Change Recommendation Form

Improving Project Deliverable and Progress Completion Expectations

Team Leaders	Ken Smith & Duncan Findlay	Date : 4/7/2006	Change Request Number 10

Current Process: *Description of the current process*

The current process for plan preparation is based on inconsistent terminology and definitions of percent completes. Typically a "30% Design", "60% Design", and "90% Design" are used to scope work, track progress in the design effort & budget expenditures, and to trigger quality control reviews of the deliverables. At times this leads to confusion in scoping, tracking, design, reviewing and preparing interim deliverables.

Improvement Opportunity: *Major causes for current process performance*

Enhanced communication by clarifying the expectations of the interim deliverables will streamline scope definition for design, plan preparation, process tracking and reviews.

Recommendation: *Solution for addressing the improvement opportunity*

Adopt the attached "Matrix of Deliverable Expectations for Project Delivery" that is "deliverable, decision and process" focused.

Benefits: *Why proposed change will result in improved performance*

1. ***Clarity in Scope and Budget:*** *By having a more commonly understood "deliverable-based" milestone progress definition, greater clarity in scope development and hence tighter budget proposals will result. Better alignment of assumptions will occur which will result in smoother consultant negotiations (if applicable). A better understanding of scope by management and design teams will result in less change and less rework.*
2. ***Productive QA/QC:*** *The greater clarity in the process focused milestones, across multiple technical disciplines, will lead to less ambiguity in what needs to be reviewed when and by whom. As such quality assurance and quality control will be more productive through more timely and cost effective reviews of commonly understood deliverables and within a more commonly understood "completion" context.*
3. ***Reduced Scope, Budget, and Schedule Creep:*** *By "freezing" project development decisions at key progress milestones, project budget and schedule overrun can be reduced. It would help reduce scope creep and thereby contain project budget and schedule creep—all tied to increased project costs.*
4. ***Changes and Surprises Managed:*** *Would cause changes to frozen decisions to be elevated for "owner endorsement and acceptance". In doing so "surprises" would be minimized, if not managed.*
5. ***Fosters Accountability and Stewardship:*** *Continuity in "handoffs' typical of public works projects over their extended duration will be improved since milestone based delivery decisions such as design criteria and design assumptions can be "frozen" and changes tracked and accounted for. Hence greater accountability and stewardship for commitments (money and schedule) can be realized.*

ACEC/WSDOT Project Delivery Team

Stakeholder Identification:

1. **WSDOT**-Don Nelson (Co Chair WSDOT/ ACEC Executive Leadership)
2. **WSDOT**- Regional Project Development Engineers
3. **ACEC**- Principals of Consulting firms.

Responsibility for Implementation: *Who will implement the recommendation?*

1. The Department of Transportation should format the matrix to post online (add to the Project Management Online Toolbox).
2. HQ Design introduce for buy-in at the Project Development Meeting
3. Consultant liaisons put in their toolbox

Time Constraints for Implementation: *When will the recommendation be implemented?*

1. Introduce to the WSDOT Project Development Engineers in May 2006 at the Annual Project Development Meeting.
2. Introduce at the June 2006 Annual WSDOT/ACEC meeting.
3. Post online by the end of summer 2006.

Details for Implementation: *How will the recommendation be implemented***?**

1. ***Project Development Engineers:*** Review and comment at annual meeting in May 2006.
2. ***WSDOT/ACEC Annual Meeting:*** Place a draft of the Recommendation and the Matrix on the June WSDOT/ACEC Annual Meeting Agenda as a break out session.
3. ***ACEC Newsletter:*** Include a write-up of the WSDOT/ ACEC Executive Leadership in the ACEC newsletter
4. ***WSDOT Design Manual:*** May update the WSDOT Design Manual to reference the matrix.
5. ***LAG Manual:*** Update the LAG Manual to reference the matrix.
6. ***Monitor Installation:*** Utilize the WSDOT/ACEC Project Delivery Committee to monitor the results of the above and report back to the WSDOT/ ACEC Executive Leadership as to progress, benefits, value, and/or process improvements.
7. ***Training:*** Incorporate the Recommendation into the current constructability review training and other WSDOT and ACEC Project Delivery training.

☐ *Approved*

☐ *Pending*

☐ *Rejected*

Comments:

*Signed:*_____ *Date:*_____

Don K. Nelson and/or Brad Stein

ACEC/WSDOT Project Delivery Team

The ACEC/WSDOT Project Delivery Team has developed the attached recommendation. You have been identified as a stakeholder for this process or program. Your comments are a valuable part of this improvement opportunity.

Please return your comments to:_____
By:_____

Stakeholder Comments:

What is your opinion of this change request proposal?

Please check one of the following:

- ☐ Good Idea
- ☐ Needs Work
- ☐ Bad Idea
- ☐ No Impact

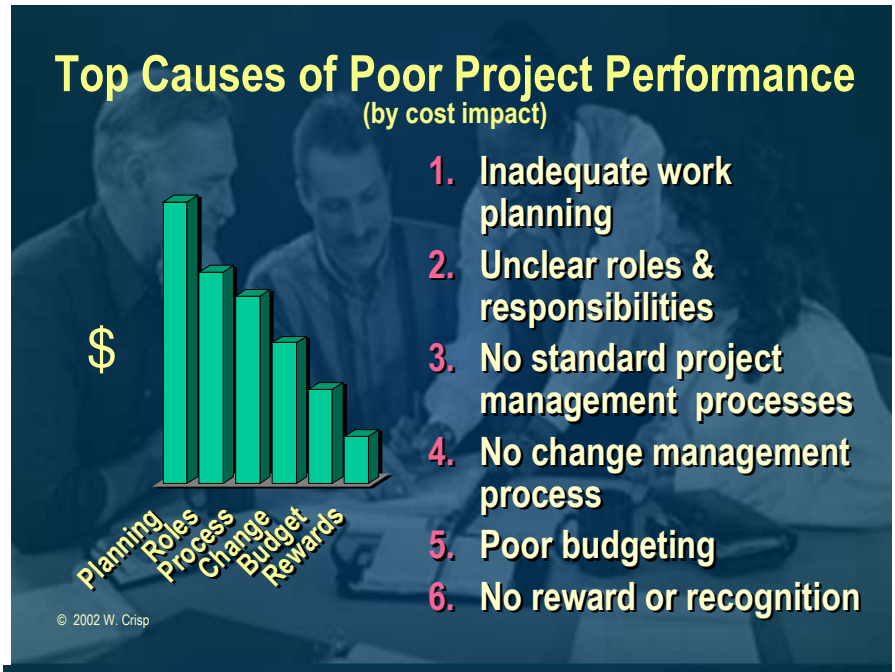
Name_____Phone_____

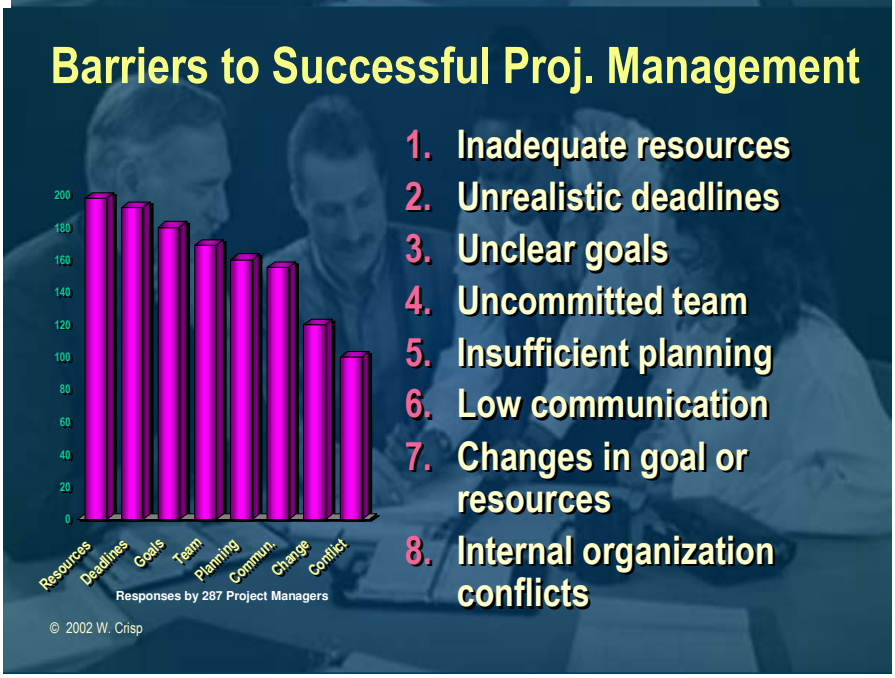
Title_____

_____

WHITE PAPER INFO:

The following is from source documentation by Mariano & Associates, Inc (in association with Wynnlee Crisp) for services to Pierce County Public Works Department in 2005-2006 for its Project Delivery System development and related training services. As noted, the statistics reflect over 200 responses by "Project Mangers" and are representative of related findings in PSMJ, PMBOK, and other project management publications.





ACEC/WSDOT Project Delivery Team

The following is all to common recurring theme throughout the United States that for Public Agency (WSDOT, et al) work contracted to a Consultant that:

1. *The "30% design" or "50% design" was inadequate and incomplete—or too complete.*
2. *As such, the Consultant work "missed the mark" resulting in poor delivery quality and "wasted costs and time" to get it right.*
3. *But, the Public Agency failed to clearly articulate its deliverable expectations and completion requirements causing "extra work" for the Consultant for which the Agency is reluctant to pay.*

Unfortunately, this theme also exists within WSDOT and ACEC consultant assigned work. The theme is perpetuated by a contracting process that typically ties project design contracts, scopes, schedules, budgets, and deliverables to key "progress milestones" defined in terms of an "X% percent design" or an "X % complete". This generally occurs without a clear and mutual understanding of what it means or is related to—thus setting the stage for missed expectations and a compromised project budget and schedule. Typically a "30% Design", "60% Design", and "90% Design" are frequently used to assert progress in the design effort, budget expenditures, and to trigger quality control reviews of the deliverables. There are also often "handoffs" between and among design teams (and/or the public agency and the consultant) who define their deliverables in different and often unrelated terms and expectations. There are also different definitions and expectations within and among the public and private sectors in terms of what constitutes a "30% or 60 % completion". Also the "% design" gets loosely interpreted or lost on non-design project elements such as conceptualizing a problem and possible solutions or sets of solutions, subsequent conceptual design of a study framework , the outline of an environmental process, or any one of a number of independent but "design" related efforts.

The pareto diagrams attached to this CRF for "Causes for Poor Project Performance" and "Barriers to Successful Project Management" reinforce and are typical of the current problem. They also help to frame the opportunity for improvement(s):

- ✓ *Four of the six causes of poor project performance have unclear and mutually misunderstood deliverables and progress milestones as systemic factors. In particular, inadequate work planning, unclear roles and responsibilities, lack of standard project management process, and poor or no change management process can be linked missed expectations in deliverables and perceived "poor quality work". Note that the performance is directly tied to "costs".*

Six of eight barriers to successful Project Management are also attributable to missed expectations in deliverables and project progress. Specifically, unrealistic deadlines, unclear goals, an uncommitted team, insufficient planning, low communications, and changes in the project goals cam all be linked to unclear expectations and definition of progress milestones,

So what's a 30% design? The "% Design" milestones have been found to bear little relevance to either the mutual expectations of the owner and its consultants and/or public

resource agencies. Nor does a "% Design" approach to scoping and budgeting milestones and deliverables have a complete relevance to the work plans for which they are intended to guide. It is generally unclear as to what the "% Design" represents. Is it--money spent, schedule spent, a predefined set of deliverables completed, completion of the environmental permitting process, pre-design, preliminary design, etc? Or as in some cases observed a combination of one or more of these.

Impact on quality? The lack of clarity in defining the progress milestones typically results in missed expectations in "quality desired", "quality expected" and "quality delivered". This frequently leads to re working deliverables to address the missed expectations compromising both project costs and schedule. The typical outcome is an owner's sense of "poor quality service". And for public funded projects, this serves to fuel the public perception of a lack of accountability and financial stewardship of public funds.

Budget overruns? The lack of clarity also leads to unnecessary and/or premature work to fulfill the owner's need for choices and outcomes to facilitate timely scope, budget, schedule decisions. This can come in the form of more design detail than is expected (or needed) for public agency design review and approval of various project development deliverables. Or, it may come with too little detail to support the agency's presentation requirements leading to "agency re-designs by red lining" consultant deliverables. This translates into budget overruns for work prematurely done and discarded or reworked deliverables

Managing change by freezing the key milestone decisions? The overall expectations of deliverables and their relationship to "managing change" is also compromised by the inability to define, set, and "freeze" key design decisions in the life cycle maturation of a project. It is often overlooked that a project typically evolves or develops from: a problem definition, to a solution, to a conceptual project definition, to a project proposal, to a programmed project, to a funded "design project", to a set of contract plans, and ultimately to the constructed project. As the project becomes more definable over time, so does the owner's expectations, requirements, criteria and assumptions. The opportunity exists to shift the focus from "% design" as a measure of project progress or completion to more of a "deliverable and process" based approach tied to commonly recognized project delivery decisions and activities. These decisions and activities can be sufficiently generic for all parties to understand; and, for which are mutually definable in terms of project criteria, design assumptions, TS&L and other common deliverables, and other terms.

A matrix of deliverable and progress expectations. The framework reflected in **Exhibit 1** (matrix attached) is based on broadly defined milestones tied to generic process decisions for deliverables and delivery process elements that can be "frozen" for a project to advance to the next stage of its evolution (development). In framing out the matrix, several technical disciplines were approached by the WSDOT/ACEC Project Delivery Task Force to assess if their defined delivery process/deliverables and progress

milestones could be linked or accomplished within the matrix framework—without using the typical "X% Design" terminology.

The matrix needs to be all encompassing to embrace the breadth of a project's evolution; and, yet flexible enough to accommodate a broad range of technical discipline deliveries. The matrix should be capable of being linked to the more detailed evolution of deliverables within the various technical disciples needed for the "chartered" project. This would best be accomplished by using WSDOT Design Manual Chapter 140 process, principles, and procedures.

Readily understood and common terms like "design criteria" and "design assumptions" need to be broadly utilized to frame the "detailing out" of milestones and deliverables specific to each technical discipline. Where possible anecdotal "% completions" could be noted to help capture those fixated on this concept. But they need to be diminished in emphasis to discern and assert their appropriate application as "% complete"-- and in reference to the overall project evolution and to a broad range of project types and not just for "engineering design". For example, an environmental project should have similar generic "process focused" milestones and anecdotally a "% completion" could be assessed to the generic milestones.